aren't provided on a per-line basis. A minute of access service, for example, or a minute of toll service, or a minute of tandem switching don't occur on a per-line basis, and we have to have some reasonable basis for getting the overhead expense to those accounts. It's been observed that some of the higher cost residential lines might bring down a greater portion of those corporate operations expenses under the methodology we would propose. But I think it's important to recognize the kinds of expenses we're talking about. It's administration, it's procurement, it's human resources. And to the extent that you have more costly facilities that require more people to operate, that require more equipment to be procured, it's only right that they should cover a proportionate amount of the corporate operations expenses, along with all of the other services.

William Sharkey, FCC

Thank you. Bob, could you continue?

Robert C. Schoonmaker, GVNW Inc./Management

I guess in looking at this question, one of the things that occurs is to me is a question that came up from one of the state regulators towards the end of the last panel and that is: Should there be some recognition and can we really answer the questions about what expenses should be included until we know what revenues are going to be included. And it may apply to investments as well. But if the benchmark, for example, is going

to include access revenues, which for small companies run typically 60 and 80% of their total revenue stream, you may get a different answer as to what expenses should be included than if access revenues are not going to be included, or only a portion of them are. So I think it's important that there be some direction given as to what revenue streams are going to be subtracted from the cost, and therefore supposedly being supported by these costs before we make a final decision on that. It seems clear to me, in any case, that customer contact time, at least a large portion of it, which goes to the establishment of service, should be included. Billing and bill collection should be in service. Updates to directories and so forth. If access is going to be one of the revenue sources, then things such as access billing costs, carrier relation, and so forth should be included as part of the expenses that are included in here because the revenues associated with those are going to be included as well. Obviously, in the corporate operations area, requirements such as accounting, human resources, regulatory, which is involving an increasing amount of money at least in the short term, is of concern and should be primarily recovered from the local service side of the equation. That'll be fine.

William Sharkey, FCC

Okay, thank you. Roger?

Roger White, GTE Telephone Operations

In terms of what would be included, again, the costs that we're dealing with are marketing, customer operations and corporate. The only exclusions that I'd make, rather than do inclusions, would be those items of marketing which are directly related to either product management or advertising associated with specific services. The rest of it would retain within the pool. In terms of the way that these would be expressed, per-line basis, again seems to be the most — in these particular expenses, seems to be the most reasonable way of going about it, with the one caveat that you're going to get in terms of the effects that you'll get between small, medium and large size companies.

William Sharkey, FCC

Thank you. Susan?

Susan Baldwin, Economics and Technology, Inc.

I agree with that. We need a lot more detail on these non-plant-related expenses. In the $5.06, one of the components is $2.15 for the general and administrative account. The account is 6720 which includes activities such as external relations, public relations, lobbying and other functions that really don't have anything whatsoever to do with either USF or the services that are being contemplated for the revenue threshold. But if I go and I look at the January 7 filing that was submitted by the

BCPM sponsors, I can't tell what's in there because it's at a very general level, $2.15. I need the next level of detail, if not more. Before we can take an aggregate expense amount and divide by numbers of lines, we need to first strip away categories of expenses that may not be appropriate for the services in question. The revenue threshold has been brought up, as it should be brought up, both the revenue threshold and the Joint Board's Recommended Decision to subsidize single line businesses raises a Pandora's box and I would just caution the Joint Board against efforts by incumbent LECs to back-door in new expenses because of these new services, either being subsidized or contemplated for the revenue threshold. Serving single line businesses is very different than multi-line businesses. Efforts spent for customer support for marketing to attract and retain Centrex customers is very different from a single line business. So I'm uncomfortable taking the business expenses and dividing by lines. I don't know what will be used, but because this is a new area.

There are a lot of questions in Question 3, and one is how should expenses be adjusted over time? And I notice that the BCPM sponsor said "gee, we may need to raise our marketing expenses because competition raises complexity and we just need to spend more time marketing." This makes me uneasy to think that the USF might be being used to subsidize ILECs positioning in a competitive market. So I think there is a lot of questions here that need to be answered, and we've got a changing scope of service.

William Sharkey, FCC

Thank you. David?

David Dowds, Florida Public Service Commission

Needless to say, I don't have the answers. I would note that two of my colleagues reiterated what I refer to as the "chicken and the egg problem" that the Joint Board left with us. Namely, they said that presumably the FCC needs to flesh out the average revenues per line benchmark. And it seems to me that until you do that, you really can't finish this model. In other words, if you don't know what the model is supposed to be able to provide, you don't know what all expenses that you need to cover. Conceivably, one could argue that some degree of product advertising would need to be subsumed and attributed to, quote, "universal service" if it's included in the revenue benchmark. And what I've been struggling with, since I read the Joint Board decision, is well, gosh, which one do we do first, guys? And I don't know how you finish until you pick one and do it. But you can't finish the model until you answer the revenue benchmark issue, to my mind. One other comment I'd make, just in passing is, for many of the expenses I'm not particularly adverse to setting on a per-line basis, but my intuition tells me at least some of these would be better dealt with on a per-account basis, to the extent that certain kinds of expenses are incurred based upon the complexity of the account holder, especially since we're

implicitly modeling business accounts here, multi-line business. And that's all I had now.

William Sharkey, FCC

Thank you.

William E. Taylor, National Economic Research Associates, Inc.

We should be aware that we've moved to an even flakier application of the proxy cost methodology. Now we're looking not just at expenses, which we don't know how they're related to the new network that's been built, but we're looking at those expenses which are, by definition, unrelated to volume or to the number and types of services that are being produced, the so-called common overhead expenses. So our standard of accuracy in assigning these costs, using them for pricing or for flowing funds through universal service, is even worse than it was for ordinary operating and maintenance expenses.

Mark mentioned the regression analysis that is sometimes used to justify the Hatfield proportionality results. I have great difficulty with that. If you remember, this is roughly the observation that overhead costs vary proportionately, you can put that in regression terms, with either total costs or direct costs or something like that. Well, so does the height and weight of men vary in roughly the same way. You can do the same model, calculate roughly the same parameters, probably. I mean, big companies have large overhead costs. However, when I go on a

diet and lose 10 pounds, I don't lose four inches. And that's an assumption which comes out of the application of the regression fallacy, if you like, to the individual elements here in measuring what common costs are going to be. What's the answer? Well, if you're going to use an econometric method, which I'm a great fan of, what you have to do is model it correctly as the econometricians would. Modeling common overhead costs, as part of a cost function, as a function of the outputs of different services, and input prices, both over time and over telephone companies. So we don't simply look at small companies and big companies, but we look at what happens to companies over time.

The only other point I have echoes David's. We have another Heisenberg problem, too. That is, if we're going to identify methods by which certain overhead costs are permitted, recovery or something, for universal service, we're not going to have the same historic overhead costs that we had before. Companies respond to incentives, and the world will change.

William Sharkey, FCC

Thank you. Now, our one-minute return comments. Ben?

Ben Johnson, Ben Johnson Associates

Yes, just very briefly. First, our model attempts to model fairly precisely those costs that are, we thought, critical to be modeling, which were the billing cost, the customer inquiry,

customer service, and data processing for the bill. But I agree with some of the earlier comments. As we get beyond that and start dealing with the more corporate overhead type functions, the Joint Board has to either decide to do more modeling effort, or simplify away the problem. I suggest probably the latter is the solution, that you've got a decision on a revenue benchmark that could easily and justifiably be $25, $30, $20, you know, give or take $10 ten, depending on the philosophy of what you're trying to do. To the extent, and I think that the Recommended Decision has some merit to it, you're attempting to say look, there's lots of revenue sources available to help pay for some of these costs, such as Yellow Pages. I think it's a good example. One of the ways to deal with it, you don't need to model that the publishing business. You simply have to make an allowance for the net margin or contribution that's available. And you do a study to figure that out. State commissions do it routinely. Same principle could be applied to other services.

William Sharkey, FCC

Peter?

Peter Copeland, U S West, Inc.

Just as an opening rebuttal, this is a cost model of the local network. And I haven't seen anyplace we're producing Yellow Pages in this production model of the local network. So I don't see how Yellow Pages revenue or costs are relevant. The

fleshing out of the benchmark, I agree that that would be helpful in determining the costs. I would like to say that, again, to differentiate between the costs that are directly applicable to basic local service, such as the customer operations and marketing, should be included, and that overheads again are the corporate operations. So those are a different function than the customer operations, which are directly associated with providing the service. Also, I wanted to point out that the fund that will be developed from a proxy model will not just be for ILECs, it'll be for any carrier who chooses to provide service in a high-cost area. So, therefore, I assume that a new customer coming in would have some marketing expenses, as well as the incumbent. So those should be reflected. Thank you.

William Sharkey, FCC

Mark?

Mark Bryant, MCI

Let me say another word in defense of the proportionality approaches as opposed to a per-line approach. And I'll just do that by way of reiterating that there are lots of network functions involved here, many of which are not provided on a per-line basis, and can be reduced to a per-line basis. It's very important that all of those share in some recovery of the overhead cost. I don't see how you get there without doing it on

some proportional basis amongst all the services being provided by the telephone company.

William Sharkey, FCC

Bob?

Robert C. Schoonmaker, GVNW Inc./Management

A couple of comments were made about adjusting expenses over time, and I think that it raised an issue that has been in the back of my mind in regards to several sections in the models, and it's the whole question of how do you deal with the models in an overtime environment and from year to year? It's not just the expenses that you have to worry about, but what about the costs of installation and the type of equipment. At what point in time do you change the technology because a new technology's come out. And particularly, how do you reconcile all that to the statutory requirements of the fund being predictable? And there's three terms there that kind of go all together, but it's consistent, predictable and something else, I believe. And I think that's a major issue, not just in relationship to expenses, but into the whole proxy model process that the Commission needs to deal with.

William Sharkey, FCC

Roger?

Roger White, GTE Telephone Operations

One last issue, again, it's on how the regulator should adjust these expenses over time. That in terms of being able to adjust expenses requires the existence of some benchmark against which you can compare and say that the expenses are too high. At this point, I believe that it's too difficult to go through and, because of the complexities, the actual drivers of these expenses, to generate that benchmark. And that the actual expenses being incurred by the company represent the best forward look at what those expenses are.

William Sharkey, FCC

Susan?

Susan Baldwin, Economics and Technology, Inc.

Let me go back to the Yellow Pages issue. There's a huge amount of common plant that's being deployed in any of these cost proxy models in order to provide the services that are being subsidized, residential local exchange and single line business. As I understand the Joint Board's Recommended Decision, the logic, the rationale for the revenue based threshold is to recognize there's lots of common costs, and there are revenues that are inextricably linked to the basic local exchange service line, to the line that connects a household or single line business to the network. The costs are common until you look at the revenues that flow over that line. Yellow Pages have

traditionally been linked, going way back to Judge Green's early decision, to local exchange service to residential local exchange service. In response to Peter's concern about the lack of logic there, I think there is a fundamental link. So that Yellow Pages appropriately belong in that revenue based threshold.

David Dowds, Florida Public Service Commission

Just following up on Susan's comment. I don't know. There's this infamous phrase, "and other." I don't have a clue. And I wouldn't even want to conjecture whether they envisioned Yellow Pages or not. There are good arguments either way. They did go into extended discussions as I recall that intra-latta toll is explicitly not included, if that gives anyone any guidance. And that's really all. I have nothing further to say.

William E. Taylor, National Economic Research Associates, Inc.

A quarrel, quickly, with Ben Johnson's comment that less than a pro rata share of these fixed common costs ought to be allocated to basic services because they don't require the same level of interest or intensity or something — complexity I guess. We'll always fall into this trap, I do too, mentally, that we first try to allocate things on some kind of cost causal basis, to assign things on a cost causal basis, and then we worry about what's left over. I thought here we're talking about what's left over. And if indeed there is a relationship between any component of these common costs, and complexity, that is, the

type of service that's done, we should see that in a pool-time series cross-section regression. Companies that have lots of local service, that are intensely local exchange, will have high levels of these costs. Companies that are basically toll carriers or vertical services carriers will have low. Let the data decide, but let's not throw our hands at it.

Finally, one quick plea to Mark Bryant: Let's be consistent. The marketing expense question about marketing expenses finding their way into unbundled network element prices. I thought we were doing this under the assumption that the ILEC has 100% of the market. So it's hard to understand how that can be anti-competitive. If you want to tell the story, and if you're in the true world concerned about that, then let's be more accurate about the size of the market whose costs we're calculating. It can't be 100% or there's not way to be anti-competitive, because there's nobody else out there.

William Sharkey, FCC

Does anyone have additional comments?

Ben Johnson, Ben Johnson Associates

One thought just to clarify. We need to keep track. You can have 100% of the wires, and say, 80% of the retail market. So you might both be right, depending. I can't recall the original colloquy, but it is important to keep track of that distinction.

William Sharkey, FCC

All right, we've completed three of the questions. We will take our break earlier than scheduled, and return at say 4:15 for the final question and questions from the audience.

(Break)

William Sharkey, FCC

We're ready to begin. Okay, this is a continuation of the panel on Expenses, for anyone who may have just walked in. The final question, formal prepared question, deals with a matter that many people have touched on already: Please comment on the feasibility of alternative methods of computing forward-looking operating expenses. For example, through yardstick comparisons or econometric techniques. So this is very open-ended. And I guess I'll let Peter begin.

Peter Copeland, U S West, Inc.

I think it is feasible to do some econometric studies on forward-looking costs. You can start by doing some basic looks at the type of expenses and activities that occur in these accounts that are associated with basic service, and you can look at some data over time that looks on sort of the larger account. But I think to do this you would need to more base it on the kind of productivity gains you could see and get from providing these services and what kind of activities are involved, and model the

activities essentially to see what might be done currently, or if they're already currently state-of-the-art, there might not be much productivity gain to be had. Plus, you can look at the accounts over time. Trouble is, a lot of the detail of the actual customer service type accounts aren't available for a long period of time. One of the things to take into account when looking at these level services and looking at time series data, is trying to associate that with the level of service that the customers and the regulators demand that the service be provided at. The response time to repair calls, which would be included in your maintenance expense, the amount of time it takes to reach a customer representative in the business office. These all need to be considered when producing these forward-looking studies. You cannot keep predicting productivity gains that would make customers wait for hours to get into the office or maybe wait for five days to receive services. Those might be productivity gains, but they do not meet the criteria that the service requires that the providers give their customers. So I think those are some of the applications you need to be careful of in trying to do an econometric study. Thank you.

William Sharkey, FCC

Okay, thank you. Mark?

Mark Bryant, MCI

I'm trying to figure out what this question's about. I went for guidance to the paper that the FCC staff released recently evaluating cost models. I saw a couple of approaches that were suggested there, and I will comment briefly on a couple of those. One approach suggested was that comparisons could be made in the relationship between operating expenses and investment for a large number of companies. And that the best of class, so to speak, could be selected out of that to be representative of a forward-looking view. This best of class approach, frankly, is one that was considered by Hatfield in developing the Hatfield model, but we ran into two significant problems to that approach. One was that we began to see that there were substantial differences in accounting methods among the companies, as we would see some kinds of expenses being booked to one account by one company and to another account by another company. So that if you were to select best of class you might be selecting a company that booked an unusually low amount of expense to that particular expense category. And therefore we felt it was unfair.

The other big problem was that unlike the approach that we ended up using in the Hatfield Model, you would lose the regional differences. That if you're selecting one company to be representative, you would lose differences that result from differences of climate or labor rates or whatever else happens between the various states or various regions of the country.

Another approach I saw suggested was the idea of using telephone plant indexes to revalue the existing investment base in each of the investment accounts, and then to recompute the expensed investment ratio on that basis. And I agree that that could be done. I think the flaw in that method may be to assume that the expense accounts themselves don't contain some degree of inefficiency and would be representative of a forward-looking view. So I think you get one basis right there, but you don't necessarily do anything to correct any problems with the other basis. As far as the econometric approach that was suggested in the staff paper, I frankly don't have enough information about what kind of approach is contemplated, but I think I agree with Peter that there may be data limitations that would make that kind of approach very difficult.

William Sharkey, FCC

Thank you. Ben?

Ben Johnson, Ben Johnson Associates

I think the econometric approach has some merit, certainly for these high level expenses, what have been referred to as common expenses like corporate expenses and administrative and general and marketing. That's an approach that should be very helpful, and potentially we could look at more than just local exchange companies. We certainly can look at the interexchange companies, and potentially we can look at other industries as

well to inform our judgment. With regard to the plant-related expenses, I think the problem's a little different, because there are no companies out there that are operating on a forward-looking network analogous to the one these models are building. So you're trying to extrapolate beyond the data. You're talking about, for example, a network with much more fiber optics, less copper. If we can get enough detail within a company, we might have enough data. In other words, there may be places within U S West territory where they are very heavy on fiber and it's analogous to what we're modeling. But certainly if you look at the total of a state or the total of a RBOC, I think we're going to have trouble trying to get data and answer questions that are truly better answers than the engineering judgments that we're using currently, where we basically are using factors that are the same kind of factors these companies use in making the decision whether to buy fiber or to buy copper.

William Sharkey, FCC

Thank you. Bill Taylor?

William E. Taylor, National Economic Research Associates, Inc.

I'm a great fan of econometric methods for measuring expenses. There's a long history of this, actually. There's literature, I think I could refer you to Lou Pearl and Jonathan Falk had a paper some years ago in an NRRI volume which discussed the then state of the literature, which was, as I remember it,

that engineering cost models are bad because they get too low numbers because engineers never take into account the difficult changes in the size of the network they build, on things like common costs and overhead expenses. That's not part of an engineer's training. And that Lou Pearl was actually quite optimistic that using econometric methods would actually result in forward-looking incremental costs which were a lot closer to embedded costs when you took into account when you did it econometrically, and took into account the effect on all of the costs of variations in demand.

Now there are a couple of disadvantages of an econometric method. It's based on historical embedded data, so you can say whatever's wrong with optimization, with how a LEC and ILEC responds to a change in demand, that's built into the data. We're not really measuring the envelope of cost functions. It's not the most efficient firm we're looking at, it's the average response. We're not really getting at the commission's TELRIC because nature's never performed that experiment. That is, there's no data out there with telephone companies that don't have switches, or switches that don't provide certain features. So you have no way of measuring the volume in sensitive parts of those services or elements that nature has never produced. You're not going to get that. I think you can overcome the technology problems that Ben referred to with data. I know Pearl and Falk were looking at the effect of stored program control on costs. And with historical data they could get that. So there's

a lot to be said for an econometric solution to this particular problem.

William Sharkey, FCC

Thank you. David?

David Dowds, Florida Public Service Commission

I'm going to pass on this one.

William Sharkey, FCC

Susan?

Susan Baldwin, Economics and Technology, Inc.

Somewhat tangential, one valuable yardstick could come from states such as California that have expended a lot of effort looking at some of the very same questions that are before the Joint Board. And to the extent that they have grappled with these same questions, their analysis and their thinking may shed light. There are states that are not looking at USF *per se*, such as Idaho, that are actually doing rate cases where there are a lot of data on expenses, non-plant-related and plant-related. Some of it's proprietary, some's not. To the extent that there is data from state that can shed light, that's one source. The yardstick, looking at correlation let's say of overhead expenses varying directly with the size of a company, that can help to

determine the magnitude of expenses that we should be talking about, but it's important to remember that even if an expense varies in direct proportion to the size of a company, that doesn't make the expense *per se* legitimate in a USF cost proxy model. Let's say lobbying varies directly with the size of an ILEC's operation. That doesn't mean that it has any place in a USF fund. So I would come back to one still needs to make sound judgment decisions about the underlying components and categories of expenses that we're talking about, because if you don't do that and you just take lump sum amounts that haven't been scrutinized and you divide by the number of lines, then you're going to have a situation where the USF fund is basically subsidizing ILECs' ventures into competitive services.

William Sharkey, FCC

Okay, thank you. Bob?

Robert C. Schoonmaker, GVNW Inc./Management

I'm okay.

William Sharkey, FCC

Okay, and Roger?

Roger White, GTE Telephone Operations

We have right now in existence already a very complex highly detailed model that accurately forecasts what the expenses are on a forward-looking basis for all companies. That model is the companies themselves. These are the expenses that are incurred by the companies, who represent all of the complexities that the company must face. And if you treat these expenses as a moving average type of projection, that is, again we're dealing with a time series projecting forward, you have this matrix of expenses for each company that's being projected forward.

William Sharkey, FCC

Peter?

Peter Copeland, U S West, Inc.

Well, I would like to reiterate that you cannot break the link between service level and expense, and that you need in any econometric model to look at the service level that's expected, and to see how maybe a projection of that expense might relate to the actual services that are expected to be provided for that service. You want to look at can those operational changes for the productivity actually be made? Have those changes already been made? You need to look at what operationally is done in those expenses and what's expected to be performed, and what level of performance and service you plan to get from the network

and your people who are providing your maintenance and repair, and your customer service. Thank you.

William Sharkey, FCC

Mark?

Mark Bryant, MCI

The only comment I had would be to respond to Roger that the companies themselves as they operate today, I don't think really represent a good model of what a forward-looking most efficient firm would actually encourage in the way of expenses. I think two or three years down the road once we have competition, we might see the response to that and see in fact what level of expenses exist at that time. But unfortunately we need the answers a little sooner than that if we're going to put into place a new USF and new prices for unbundled elements.

William Sharkey, FCC

Okay. Ben?

Ben Johnson, Ben Johnson Associates

Just a cautionary note. I appreciate the enthusiasm for econometrics, and I think in fact it could bring some light to bear on these issues. But a necessary first step is that all the parties have available data to work with. We know there's some

data out there. For example, many of the states require ARMIS type reporting in a paper form. And if we can collect that data effectively and let all the parties have access to it at the starting point. Similarly the RBOCs surely have the analogous ARMIS type data broken down by state because they need to keep track of various things for state regulatory purposes. Again, a central collecting effort is very important. If we simply wait until a few of the parties, maybe the RBOCs, collectively decide to go out and gather the data and then do a bunch of studies, and everyone else is then reacting to it, you won't get as good a science as if somebody like the FCC first helps coordinate an effort or a joint industry effort to gather the data, make it available to everyone and then have everyone in parallel trying to do the econometrics.

William Sharkey, FCC

Okay. Bill?

William E. Taylor, National Economic Research Associates, Inc.

I think my enthusiasm is for the sort of organization and discipline that an econometric method brings, so that we're not running around and picking out items of data at random from public filings to use for expenses, but rather identifying them in an organized way, and determining what causes them to change. Because remember, we're doing a proxy cost, and we're going to apply the results of a model to things which are very important

for individuals and for companies. How would you feel if the IRS determines your taxes by asking you what was your age and your education, and then telling you what tax you owed? You have — we together, have an obligation to be far more accurate in this than just being accurate on average.

William Sharkey, FCC

David? Susan?

Susan Baldwin, Economics and Technology, Inc.

Echoing in part Ben's concern about all interested parties' access to data upon which decisions will be made, it does raise a question, again going back to the earlier comments I made about the ILECs surveys that were used for coming up with projections of forward-looking expenses in the newest version of the BCM. Is there a way that the Joint Board of the FCC can continue to be sort of the one asking questions so that the answers and all the data is at a public entity? And I'm thinking about the questions that were posed in August, the detailed questions to the model sponsors. That led to some very helpful information that all parties had access to. And to the extent there's not an intermediary, that's certainly helpful as a procedural matter.

William Sharkey, FCC

Bob? Okay, Roger?